REMARKS

Reconsideration and allowance of the above-referenced application are respectfully requested.

I. STATUS OF THE CLAIMS

Various of the claims are amended herein.

Claims 1-32 are currently pending.

II. REJECTION OF CLAIMS 20-22 UNDER 35 USC 101

Claims 20-22 are rejected under 35 USC 101 as being directed to non-statutory subject matter.

The present invention as recited, for example, in claim 20, relates to a method for simulating phenomena of a combined particle formed of individual particles. The method comprises (a) setting information for defining a plurality of generation periods and a corresponding number of individual particles to be generated during each generation period; (b) generating the individual particles in accordance with the information set in the setting step; and (c) computing motion of the generated individual particles, to simulate phenomena of the combined particle.

MPEP 2106 relates to patentable subject matter for computer-related inventions. As indicated in MPEP 2106, a computer-related invention is patentable subject matter if it recites the manipulation of data representing physical objects or activities to achieve a practical application. Such activity is typically referred to as "pre-computer process activity." See, for example, flowchart A-2 in MPEP 2106. See also MPEP 2106 section IV(B)(2)(b)(i), which provides the following as examples of such statutory subject matter: (a) a method of using a computer processor to analyze electrical signals and data representative of human cardiac activity; (b) a method of using a computer processor to receive data representing CAT scan

images of a patient; (c) a method of using a computer processor to conduct seismic exploration.

Further, MPEP 2106 section IV(B)(2)(b)(ii) states that a computer-related invention is patentable subject matter if it recites a practical application in the technological arts.

Moreover, according to State Street Bank & Trust Co. v. Signature Financial Group Inc., 47 USPQ2d 1596, the recitation of a mathematical algorithm, formula or calculation is patentable subject matter if it produces "a useful, concrete and tangible result." More specifically, in State Street, the calculation of a "final share price" was determined to be patentable subject matter since a final share price is a useful, concrete and tangible result.

Claim 20 recites, among other things, computing motion of the generated individual particles, to simulate phenomena of the combined particle. Clearly, this recitation relates to pre-computer process activity under MPEP section IV(B)(2)(b)(i) since it relates to the manipulation of data representing physical objects (i.e, the combined particle and/or the generated individual particles) to achieve a practical application (i.e., to simulate phenomena of the combined particle).

Further, the computation of motion in claim 20 recites a practical application in the technological arts (i.e., computing motion to simulate phenomena of the combined particle) under MPEP 2106 section IV(B)(2)(b)(ii).

In addition, the computed motion of claim 20 would be a useful, concrete and tangible result under State Street.

Similarly, claim 22 recites computing motion of the generated individual particles, to simulate phenomena of the combined particle. In accordance with the above description, this recitation of computing motion would be pre-computer process activity under MPEP section IV(B)(2)(b)(i), a practical application in the technological arts under MPEP 2106 section IV(B)(2)(b)(ii) and/or a useful, concrete and tangible result under State Street.

Please note that claims 20 and 22 are amended herein, to clarify that these claims relate to a "computer-implemented" method.

In view of the above, it is respectfully submitted that the rejection is overcome.

III. REJECTION OF CLAIMS 20-22 UNDER 35 USC 112, FIRST PARAGRAPH

Claims 20-22 are rejected under 35 USC 112, first paragraph. More specifically, the Examiner asserts that the claims do not have an asserted utility.

It is respectfully submitted that the utility of the invention as recited in the rejected claims would be clear from the comments in Section II, above. More specifically, the utility in the present invention as recited in claims 20 and 22 is, for example, the computation of motion, to simulate phenomena of the combined particle.

In view of the above, it is respectfully submitted that the rejection is overcome.

IV. ALLOWANCE OF CLAIMS 1-19 AND 23-32

In the Office Action, the Examiner indicated that claims 1-19 and 23-32 are allowed. However, on page 3 of the Office Action, the Examiner indicated that the claims are allowed because it was asserted in the Amendment filed February 9, 1999, that "the combination of a substrate particle and an adsorbate particle to form a combined particle does not mean that the particles are interacting with one another. Rather, this is meant as a fictitious representation and is not intended as a physical criterion." Thus, the Examiner appears to conclude that the particles are not interacting.

The above-described statement in the Amendment filed February 9, 1999, was not meant as an assertion that the particles do not interact with each other in any manner. For example, there might be some interaction of the particles, although there might be some conditions for the interaction. Therefore, the assertion in the Amendment filed February 9, 1999, is hereby withdrawn if this assertion is causing confusion.

In any event, the claims should not be limited to including "no interaction" of the particles.

To more clearly distinguish the claims over the prior art of record, independent claims 1, 16, 23 and 24 are amended herein to recite an "emission source." Please note that dependent claim 10 originally recited an emission source. None of the cited references disclose such an emission source.

V. CONCLUSION

In view of the above, it is respectfully submitted that the application is in condition for allowance, and a Notice of Allowance is earnestly solicited.

If any further fees are due by the filing of this Amendment, please charge same to deposit account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY

Date: November 17, 1999 By: _____

Paul I. Kravetz
Registration No. 35,230

700 Eleventh Street, N.W.
Suite 500
Washington, D.C. 20001
(202) 434-1500